

U.S. PATENT APPLICATION
Attorney Docket No. 5116.01

Claims:

1. An ultrasonic applicator for an ultrasonic surgical device, the applicator being shaped and sized for surgical application, the applicator comprising:
 - a base portion comprising a high-strength aluminum alloy material; and
 - a surface coating of aluminum oxide having a thickness between about 0.0001 and 0.0003 inch.
2. The ultrasonic applicator of Claim 1 wherein the applicator is a probe, tip or blade of an ultrasonic surgical device.
3. The ultrasonic applicator of Claim 1 wherein the ultrasonic surgical device is a lipoplasty device.
4. The ultrasonic applicator of Claim 1 wherein the aluminum alloy is a member of the group consisting of Al6061 and Al7075.
5. The ultrasonic applicator of Claim 1 wherein the surface coating of aluminum oxide has a thickness of between about 0.0001 and 0.0002 inch.

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6. The ultrasonic applicator of Claim 1 wherein the surface coating of aluminum oxide includes a dye or colorant and the thickness of the surface coating is between 0.0003 and 0.0005 inch.

7. The ultrasonic applicator of Claim 6 wherein the surface coating of aluminum oxide
5 has a thickness between about 0.0003 and 0.0004 inch.

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8. An ultrasonic applicator for an ultrasonic lipoplasty surgical device, the applicator being shaped and sized for surgical application, the applicator comprising:

a base portion comprising a high-strength aluminum alloy material selected from the group consisting of Al6061 and Al7075; and

5 a surface coating of aluminum oxide having a thickness between about 0.0001 and 0.0003 inch.

9. The ultrasonic applicator of Claim 8 wherein the surface coating of aluminum oxide has a thickness of between about 0.0001 and 0.0002 inch.

10. The ultrasonic applicator of Claim 8 wherein the surface coating of aluminum oxide includes a dye or colorant and the thickness of the surface coating is between 0.0003 and 0.0005 inch.

11. The ultrasonic applicator of Claim 10 wherein the surface coating of aluminum oxide 15 has a thickness between about 0.0003 and 0.0004 inch.

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12. An ultrasonic blade for an ultrasonic surgical cutting device, the applicator being shaped and sized for surgical application, the blade comprising:

a base portion comprising a high-strength aluminum alloy material selected from the group consisting of Al6061 and Al7075; and

5 a surface coating of aluminum oxide having a thickness between about 0.0001 and 0.0003 inch.

13. The ultrasonic blade of Claim 12 wherein the surface coating of aluminum oxide has a thickness of between about 0.0001 and 0.0002 inch.

14. The ultrasonic blade of Claim 12 wherein the surface coating of aluminum oxide includes a dye or colorant and the thickness of the surface coating is between 0.0003 and 0.0005 inch.

15. The ultrasonic blade of Claim 14 wherein the surface coating of aluminum oxide has a thickness between about 0.0003 and 0.0004 inch.

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16. A method of making an ultrasonic applicator for an ultrasonic surgical device comprising:

fabricating an ultrasonic applicator from a high-strength aluminum alloy; and

coating the surface of the ultrasonic applicator with aluminum oxide, the thickness of the

coating between about 0.0001 and 0.0003 inch.

17. The method of Claim 16 wherein the applicator is a probe, tip or blade of an
an surgical device.

18. The method of Claim 16 wherein the ultrasonic surgical device is a lipoplasty device.

19. The method of Claim 16 wherein the aluminum alloy is a member of the group consisting of Al6061 and Al7075.

15 20. The method of Claim 16 wherein the surface coating of aluminum oxide has a
thickness of between about 0.0001 and 0.0002 inch.

21. The method of Claim 16 wherein the surface coating of aluminum oxide includes a dye or colorant and the thickness of the surface coating is between 0.0003 and 0.0005 inch.

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22. The method of Claim 21 wherein the surface coating of aluminum oxide has a thickness between about 0.0003 and 0.0004 inch.

23. The method of claim 16 wherein the coating is performed by anodizing.

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24. A method of using an ultrasonic applicator for an ultrasonic surgical devise comprising:
applying an ultrasonic applicator of an ultrasonic surgical device to the tissues of a
patient, the ultrasonic applicator being fabricated from a high-strength aluminum alloy and having a
coating on its surface of aluminum oxide, the coating having a thickness between about 0.0001 and
5 0.0003 inch; and

vibrating the ultrasonic applicator at an operating resonant frequency to achieve a
surgical effect.

10 25. The method of Claim 24 wherein the applicator is a probe, tip or blade of an
ultrasonic surgical device.

26. The method of Claim 24 wherein the ultrasonic surgical device is a lipoplasty device.

15 27. The method of Claim 24 wherein the aluminum alloy is a member of the group
consisting of Al6061 and Al7075.

28. The method of Claim 24 wherein the surface coating of aluminum oxide has a
thickness of between about 0.0001 and 0.0002 inch.

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29. The method of Claim 24 wherein the surface coating of aluminum oxide includes a dye or colorant and the thickness of the surface coating is between 0.0003 and 0.0005 inch.

30. The method of Claim 29 wherein the surface coating of aluminum oxide has a

5 thickness between about 0.0003 and 0.0004 inch.

31. The method of claim 24 wherein the coating is performed by anodizing.